DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017102
Date Inspected: 29-Sep-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: William Sherwood and Jim Cunningham
CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 7E/8E top deck plate ‘A’ outside, QA observed ABF welder Rick Clayborn completed pushing the wedges underneath the backing bar against the U-rib connection plate that eventually pushed the backing bar close to the deck plate. Where gap was still noted after pushing the backing bar to the deck plate, the welder welded U-bar fitting gear and put the ball pin/insert rod to push the backing bar. This process was completed throughout the length of the splice butt joint and the welder informed QC William Sherwood to check the alignment. QA observed QC perform the alignment check and came up with one location at A1 (south end) having misalignment of 3.0mm to 5.0mm to a length of 130mm and two locations having greater than 2.0mm gap between the deck plate and backing bar. QA also performed random verification on the fit up misalignment and came up with same result. According to QC, this unacceptable misalignment was put on record and to be submitted to ABF for further evaluation.

At OBG 7E/8E bottom plate ‘D’ inside, QA observed ABF QC William Sherwood perform alignment check on the fit up of the splice butt joint. After the completion of the alignment check, QC informed QA that the alignment was acceptable and that he was getting an offset measurement reading of less than 2.0mm all throughout the length of the joint. QA also performed the alignment verification and noted a measurement reading of 0mm to 1.5mm which was deemed in compliance to the contract requirements. Surface prep for the bevel and the adjacent base metal were also verified for cleanliness which they were noted wire brushed clean and deemed ready for welding.

Still at the same plate mentioned above, QA randomly observed ABF/JV qualified welders Xiao Jian Wan and Hua Qiang Huang seal welding bottom plates 'D' to the backing bar. The welders were utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-1. The joint had a single V-groove butt joint design with the bottom plate and backing bar being seal welded. The plate with the backing bar was preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring the welder. The welders have completed seal welding on both sides of the plates and then hand welded using the same process the two ends (north side, 500mm and south side, 1000mm) of the splice wherein the SAW track mounted feeder has a limited access. These two ends were not completely welded but filled 50% at the end of the shift.

At OBG 5W/6W side plate 'C' inside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The repair excavations were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Jim Cunningham was noted monitoring the welder. Prior welding, ABF QC Jim Cunningham was also observed performing Magnetic Particle Testing (MT) using Parker Contour Probe with red magnetic powder as detecting media on the repair excavation. There were no significant defects noted during the test. At the end of the shift, all five UT repairs on this plate have been completed.

At OBG 6W/7W edge plates 'B' and 'F' outside, QA observed ABF personnel continuing to flush grind the weld cover reinforcement of the splice butt joints as required. The personnel were using the 4 1/2"disc grinder with the grinding cut of the discs to the plate parallel to the direction of the bridge complying with the contract requirements. Before the end of the shift, flush grinding of the weld cover reinforcement on both edge plates was completed.

WELDING INSPECTION REPORT

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Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer